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(19) (CA) **CANADIAN PATENT** (12)

(54) CORONA-RESISTANT RESIN COMPOSITIONS

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ABSTRACT OF THE DISCLOSURE

A corona-resistant resin composition comprises an epoxy resin, ester-imide, unsaturated polyester, other resin or a thermoplastic film containing 5% to about 40% by weight of a dissolved organosilicate or dissolved organoaluminate or dispersed silica or dispersed alumina particles of a ~~finite~~ size less than about 0.1 micron. A method of providing corona-resistant insulation for an electrical conductor employs the above composition.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for providing corona-resistant insulation for an electrical conductor having good high-temperature dimensional stability comprising covering at least a portion of said conductor with a polyester wire enamel substantially free from vinyl compound containing an amount of an additive effective to provide unique corona resistance selected from the group consisting of organo-aluminate compounds, organo-silicate compounds, silica of particle size from approximately 0.005 micron to approximately 0.05 micron and alumina of particle size from approximately 0.005 micron to approximately 0.05 micron.

2. The method of claim 1, wherein the additive is alumina particles which comprise fumed alumina of particle size from approximately 0.005 microns to approximately 0.050 microns and said alumina particles are substantially uniformly disposed through said polyester wire enamel.

3. The method of claim 1, wherein said polyester wire enamel is an ester-imide resin, said additive being an organo-aluminate, said organo-aluminate being aluminum acetylacetone.

4. The method of claim 1, wherein said polyester wire enamel is an ester-imide resin, said additive being silica particles of size from approximately 0.005 microns to approximately 0.050 microns.

5. An electrically insulated structure comprising:  
at least a portion of an electrically conductive member;

a covering disposed on said portion, said covering comprising a polyester wire enamel substantially free from vinyl compound containing an amount of an additive <sup>effective</sup> effect to

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Claim 5 continued:

provide unique corona resistance selected from the group consisting of organo-silicate compounds, organo-aluminate compounds, silica of particle size from approximately 0.005 micron to approximately 0.05 micron and alumina of particle size from approximately 0.005 micron to approximately 0.05 micron.

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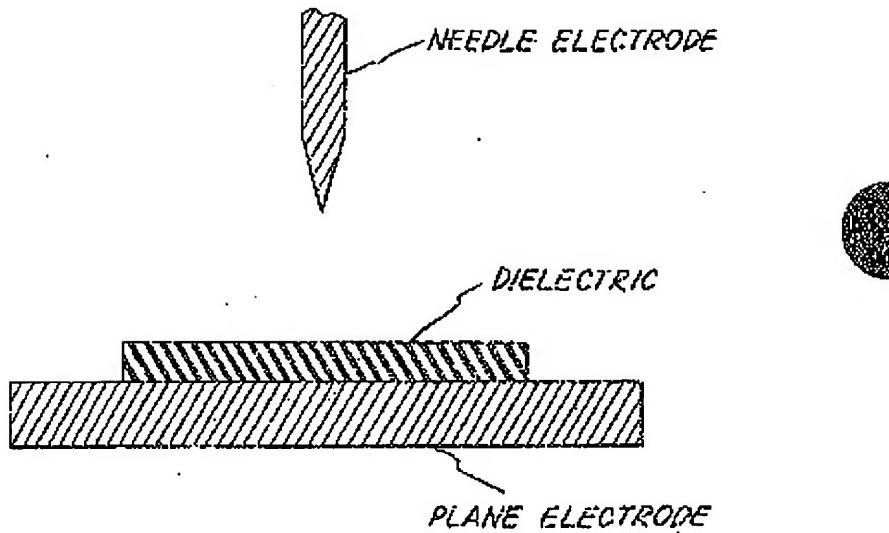
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